

Index to Technical News Bulletin—Volume 42, 1958

A	Page
Absolute calibration of a capacitance-type vibration pickup (Jan.)	1
Acetylene in low concentrations, determination of (Oct.)	203
Acid strengths in benzene (Oct.)	192
Addendum to NBS Handbook 54 (Aug.)	163
Advisory committee program, new plan for (May)	97
Aircraft temperature recorder, 96-point (Aug.)	165
Ampere, standard, determination of (Feb.)	21
Apparatus facilitates lens testing (Dec.)	238
Audiofrequency voltmeter (Sept.)	170
Automatic sorting machine for letter mail (Aug.)	156
Automatic system for spectrometric data (Sept.)	175
Azo dyes, direct, interaction in aqueous solution (Mar.)	45

B	Page
Barium titanate, electroluminescence from (Oct.)	206
Benzene, acid strengths in (Oct.)	192
Beta-alumina structures in trivalent systems (June)	119
Bid evaluation with high-speed computer (Apr.)	73
Bremsstrahlung experiments (May)	90

C	Page
Calibration of capacitance-type pickup (Jan.)	1
Calorimeter, precise adiabatic (Jan.)	13
Capacitance standards, new (Nov.)	229
Capacitance-type vibration pickup, absolute calibration of (Jan.)	1
Cathodic protection of steel in salt water (May)	83
Cellulose, degradation of, by ultraviolet light (Sept.)	169
Cermets, brittle, mechanical properties of (Oct.)	196
Chemical analysis, new zinc spelter standard for (Dec.)	239
Chemical structure searching with automatic computers (Apr.)	75
Chromium-nickel-molybdenum alloy, unusual microstructure of (Dec.)	243
Color response of the human eye (Aug.)	160
Color standards, safety (Aug.)	202
Color standards, television (Oct.)	202
Combustion products, hydrocarbon (July)	139
Compensating bridge method for core-loss measurements (May)	81
Concrete, width of cracks in (Jan.)	9
Conference on electronic standards and measurements (May)	96
(Nov.)	209
Conference on weights and measures, 43d National (Aug.)	166
Conference, photonuclear (Oct.)	189
Construction features, NBS electronic calibration center (Nov.)	222
Cool flame oxidation, isotopic tracer study of (Aug.)	150
Cooling electronic equipment (Jan.)	16
Cooling loads of refrigerated trailers (Oct.)	194
Copper corrosion retarded by light (Mar.)	47
Core-loss measurements, compensating bridge method for (May)	81
Corrosion of copper retarded by light (Mar.)	47
Corrosion, underground (Sept.)	181
Crack widths in concrete (Jan.)	9
Creep of nickel, copper, and nickel-copper alloys (Sept.)	176
Cryostat for precise temperature control over very wide range (May)	98
Crystal structure calculations on high-speed computer (Apr.)	72

D	Page
Dedication of electronic calibration center (Nov.)	220
Degradation of cellulose by ultraviolet light (Sept.)	169
Detentes, dimensional stability of (Jan.)	15
Deputy Director, Huntoon appointed (Dec.)	235
Determination of acetylene in low concentrations (Oct.)	203
Determining mechanical properties of brittle cermets (Oct.)	196
Digital computers, magnetic amplifiers for (Apr.)	77
Dimensional stability of detentes (Jan.)	15
Diode amplifier shift register (Apr.)	78
Direct determination of sound speed in liquids (Feb.)	38
Direct-reading viscometer (Sept.)	174
Distribution of certain longer-lived radioisotope standards (Dec.)	241
Documents preserved by lamination (Mar.)	54

E	Page
Effects of high temperatures on nickel-copper tensile properties (Aug.)	152
Electrical characteristics of printed circuit panels (Feb.)	34
Electroless plating, studies of (May)	86
Electroluminescence from barium titanate (Oct.)	206
Electron accelerator, high-energy high-intensity (Dec.)	248
Electronic calibration center, dedication of (Nov.)	220
Electronic calibration center, construction features (Nov.)	222
Electronic calibration center, services and facilities (Nov.)	223
Electronic computer research (Apr.)	57
Electronic equipment, cooling of (Jan.)	16
Electrorefining of molybdenum, impurities in the (Aug.)	162
Emission and absorption studies of hydrocarbon combustion products (July)	139
Energy distributions and temperature determinations in flames (July)	131
Epoxy-resin adhesives, low-temperature strength of (May)	84
Evaluation of leather impregnants (Dec.)	245
Evaluation of stress-strain recorders (Sept.)	172

F	Page
Fabric shrinkage test evaluated, results of an interlaboratory study (Dec.)	247
Fatigue of metals, observation concerning (Jan.)	4
Fatigue crack, gas evolved under transparent tape (Dec.)	243
Fatigue-crack initiation in metals (Dec.)	248
Flames, energy distributions and temperature determinations in (July)	131
Flow capacities of pneumatic components (May)	95
Fractional melting, purification by (Jan.)	4
Fuel gas, standard samples available (May)	97
Function generator for two independent variables (Apr.)	67
Fungicides, leather (Sept.)	178

G	Page
Gage-block parallelism, interferometer for measuring (Feb.)	30
Gas evolves from propagating fatigue crack under transparent tape (Dec.)	243
Geometrical optics problems on high-speed computer (Apr.)	71
Glass corrosion by buffer solutions (May)	95
Glass, sag point as reference temperature for annealing (Feb.)	26
Glass stability, interpretation of (Aug.)	161
Glasses with high refractive indices and dispersions (Oct.)	201
Graduate School, NBS, celebrated 50th anniversary (Dec.)	246
Gyromagnetic ratio of proton redetermined (Nov.)	217

H	Page
Heat transfer in underground chambers (Jan.)	19
High-energy high-intensity electron accelerator (Dec.)	249
High-speed multiplier, for electronic digital computers (Apr.)	58
High-temperature alloys, standard samples of (July)	138
High-temperature bibliography, recent publications by the Bureau staff (July)	141
High-temperature coating for molybdenum (Dec.)	240
High-temperature measurements (July)	125
High-temperature phase-equilibrium studies (June)	120
High-temperature properties of materials (June)	112
High-temperature research (June)	101
High-temperature standards, international comparison of (July)	140
High-temperature strain gages (July)	134
High-temperature transformations (June)	104
High-temperature viscometer (June)	103
Hoffman receives Fisher Award (Dec.)	249
Huntoon appointed Deputy Director (Dec.)	235
Hydrocarbon combustion products (July)	139

I	Page
Impact behavior of plastics (Feb.)	23
Impact test for leather (Mar.)	52
Improved map paper (Aug.)	148
Improved method for neutron detection (Sept.)	186
Impurities in the electrorefining of molybdenum (Aug.)	162
Inch, standardization of (Mar.)	41
Information processing, research advisory service on (Dec.)	233
Interaction of direct azo dyes in aqueous solution (Mar.)	45
Intercomparison of light standards (Feb.)	28
Interferometer for measuring gage-block parallelism (Feb.)	30
International comparison of high-temperature standards (July)	140
Interpretation of glass stability (Aug.)	164
Iron-base spectroscopic standard samples (Oct.)	205
Isotopic standards, uranium, now available (Dec.)	244
Isotopic tracer study of cool flame oxidation (Aug.)	150

J	Page
Jet-engine studies, probes for (Jan.)	18

L	Page
Leather fungicides (Sept.)	178
Leather, impact test for (Mar.)	52
Leather impregnants, evaluation of (Dec.)	245
Lens testing, apparatus for (Dec.)	238
Lenses, glasses for, with high refractive indices and dispersions (Oct.)	201
Light standards, intercomparison of (Feb.)	28
Liquefied petroleum gas dispensers (May)	94
Low-power plug-in packages, for electronic-computer circuitry (Apr.)	63
Low-temperature strength of epoxy-resin adhesives (May)	84

M	Page
Magnetic amplifiers for digital computers (Apr.)	77
Magnetometer, rubidium vapor (Dec.)	234
Mail sorting machine, automatic (Aug.)	156
Man-machine simulation system (Apr.)	68
Map paper, improved (Aug.)	148
Martian atmosphere restudied (Mar.)	48
Mathematical tables calculated on high-speed computer (Apr.)	74
Matrix manipulator (May)	87
Metal fatigue, observation concerning (Jan.)	8
Metallurgical conference (July)	143
Metals, fatigue-crack initiation in (Dec.)	248
Molybdenum, impurities in electrorefining of (Aug.)	162
Molybdenum, high-temperature coating for (Dec.)	240
Multiplier, high-speed, for electronic digital computers (Apr.)	58

Index to Technical News Bulletin—Volume 42, 1958

A	Page
Absolute calibration of a capacitance-type vibration pickup (Jan.)	1
Acetylene in low concentrations, determination of (Oct.)	203
Acid strengths in benzene (Oct.)	192
Addendum to NBS Handbook 54 (Aug.)	163
Advisory committee program, new plan for (May)	97
Aircraft temperature recorder, 96-point (Aug.)	165
Ampere, standard, determination of (Feb.)	21
Apparatus facilitates lens testing (Dec.)	238
Audiofrequency voltmeter (Sept.)	170
Automatic sorting machine for letter mail (Aug.)	156
Automatic system for spectrometric data (Sept.)	175
Azo dyes, direct, interaction in aqueous solution (Mar.)	45

B	Page
Barium titanate, electroluminescence from (Oct.)	206
Benzene, acid strengths in (Oct.)	192
Beta-alumina structures in trivalent systems (June)	119
Bid evaluation with high-speed computer (Apr.)	73
Bremsstrahlung experiments (May)	90

C	Page
Calibration of capacitance-type pickup (Jan.)	1
Calorimeter, precise adiabatic (Jan.)	13
Capacitance standards, new (Nov.)	229
Capacitance-type vibration pickup, absolute calibration of (Jan.)	1
Cathodic protection of steel in salt water (May)	83
Cellulose, degradation of, by ultraviolet light (Sept.)	169
Cermets, brittle, mechanical properties of (Oct.)	196
Chemical analysis, new zinc spelter standard for (Dec.)	239
Chemical structure searching with automatic computers (Apr.)	75
Chromium-nickel-molybdenum alloy, unusual microstructure of (Dec.)	243
Color response of the human eye (Aug.)	160
Color standards, safety (Aug.)	202
Color standards, television (Oct.)	202
Combustion products, hydrocarbon (July)	139
Compensating bridge method for core-loss measurements (May)	81
Concrete, width of cracks in (Jan.)	9
Conference on electronic standards and measurements (May)	96
Conference on weights and measures, 43d National (Aug.)	209
Conference, photonuclear (Oct.)	189
Construction features, NBS electronic calibration center (Nov.)	222
Cool flame oxidation, isotopic tracer study of (Aug.)	150
Cooling electronic equipment (Jan.)	16
Cooling loads of refrigerated trailers (Oct.)	194
Copper corrosion retarded by light (Mar.)	47
Core-loss measurements, compensating bridge method for (May)	81
Corrosion of copper retarded by light (Mar.)	47
Corrosion, underground (Sept.)	181
Crack widths in concrete (Jan.)	9
Creep of nickel, copper, and nickel-copper alloys (Sept.)	176
Cryostat for precise temperature control over very wide range (May)	98
Crystal structure calculations on high-speed computer (Apr.)	72

D	Page
Dedication of electronic calibration center (Nov.)	220
Degradation of cellulose by ultraviolet light (Sept.)	169
Detenture, dimensional stability of (Jan.)	15
Deputy Director, Huntoon appointed (Dec.)	235
Determination of acetylene in low concentrations (Oct.)	203
Determining mechanical properties of brittle cermets (Oct.)	196
Digital computers, magnetic amplifiers for (Apr.)	77
Dimensional stability of detenture (Jan.)	15
Diode amplifier shift register (Apr.)	78
Direct determination of sound speed in liquids (Feb.)	38
Direct-reading viscometer (Sept.)	174
Distribution of certain longer-lived radioisotope standards (Dec.)	241
Documents preserved by lamination (Mar.)	54

E	Page
Effects of high temperatures on nickel-copper tensile properties (Aug.)	152
Electrical characteristics of printed circuit panels (Feb.)	34
Electroless plating, studies of (May)	86
Electroluminescence from barium titanate (Oct.)	206
Electron accelerator, high-energy high-intensity (Dec.)	248
Electronic calibration center, dedication of (Nov.)	220
Electronic calibration center, construction features (Nov.)	222
Electronic calibration center, services and facilities (Nov.)	223
Electronic computer research (Apr.)	57
Electronic equipment, cooling of (Jan.)	16
Electrorefining of molybdenum, impurities in the (Aug.)	162
Emission and absorption studies of hydrocarbon combustion products (July)	139
Energy distributions and temperature determinations in flames (July)	131
Epoxy-resin adhesives, low-temperature strength of (May)	84
Evaluation of leather impregnants (Dec.)	245
Evaluation of stress-strain recorders (Sept.)	172

F	Page
Fabric shrinkage test evaluated, results of an interlaboratory study (Dec.)	247
Fatigue of metals, observation concerning (Jan.)	4
Fatigue crack, gas evolved under transparent tape (Dec.)	243
Fatigue-crack initiation in metals (Dec.)	248
Flames, energy distributions and temperature determinations in (July)	131
Flow capacities of pneumatic components (May)	95
Fractional melting, purification by (Jan.)	4
Fuel gas, standard samples available (May)	97
Function generator for two independent variables (Apr.)	67
Fungicides, leather (Sept.)	178

G	Page
Gage-block parallelism, interferometer for measuring (Feb.)	30
Gas evolves from propagating fatigue crack under transparent tape (Dec.)	243
Geometrical optics problems on high-speed computer (Apr.)	71
Glass corrosion by buffer solutions (May)	95
Glass, sag point as reference temperature for annealing (Feb.)	26
Glass stability, interpretation of (Aug.)	161
Glasses with high refractive indices and dispersions (Oct.)	201
Graduate School, NBS, celebrated 50th anniversary (Dec.)	246
Gyromagnetic ratio of proton redetermined (Nov.)	217

H	Page
Heat transfer in underground chambers (Jan.)	19
High-energy high-intensity electron accelerator (Dec.)	249
High-speed multiplier, for electronic digital computers (Apr.)	58
High-temperature alloys, standard samples of (July)	138
High-temperature bibliography, recent publications by the Bureau staff (July)	141
High-temperature coating for molybdenum (Dec.)	240
High-temperature measurements (July)	125
High-temperature phase-equilibrium studies (June)	120
High-temperature properties of materials (June)	112
High-temperature research (June)	101
High-temperature standards, international comparison of (July)	140
High-temperature strain gages (July)	134
High-temperature transformations (June)	104
High-temperature viscometer (June)	103
Hoffman receives Fisher Award (Dec.)	249
Huntoon appointed Deputy Director (Dec.)	235
Hydrocarbon combustion products (July)	139

I	Page
Impact behavior of plastics (Feb.)	23
Impact test for leather (Mar.)	52
Improved map paper (Aug.)	148
Improved method for neutron detection (Sept.)	186
Impurities in the electrorefining of molybdenum (Aug.)	162
Inch, standardization of (Mar.)	41
Information processing, research advisory service on (Dec.)	233
Interaction of direct azo dyes in aqueous solution (Mar.)	45
Intercomparison of light standards (Feb.)	28
Interferometer for measuring gage-block parallelism (Feb.)	30
International comparison of high-temperature standards (July)	140
Interpretation of glass stability (Aug.)	164
Iron-base spectroscopic standard samples (Oct.)	205
Isotopic standards, uranium, now available (Dec.)	244
Isotopic tracer study of cool flame oxidation (Aug.)	150

J	Page
Jet-engine studies, probes for (Jan.)	18

L	Page
Leather fungicides (Sept.)	178
Leather, impact test for (Mar.)	52
Leather impregnants, evaluation of (Dec.)	245
Lens testing, apparatus for (Dec.)	238
Lenses, glasses for, with high refractive indices and dispersions (Oct.)	201
Light standards, intercomparison of (Feb.)	28
Liquefied petroleum gas dispensers (May)	94
Low-power plug-in packages, for electronic-computer circuitry (Apr.)	63
Low-temperature strength of epoxy-resin adhesives (May)	84

M	Page
Magnetic amplifiers for digital computers (Apr.)	77
Magnetometer, rubidium vapor (Dec.)	234
Mail sorting machine, automatic (Aug.)	156
Man-machine simulation system (Apr.)	68
Map paper, improved (Aug.)	148
Martian atmosphere restudied (Mar.)	48
Mathematical tables calculated on high-speed computer (Apr.)	74
Matrix manipulator (May)	87
Metal fatigue, observation concerning (Jan.)	8
Metallurgical conference (July)	143
Metals, fatigue-crack initiation in (Dec.)	248
Molybdenum, impurities in electrorefining of (Aug.)	162
Molybdenum, high-temperature coating for (Dec.)	240
Multiplier, high-speed, for electronic digital computers (Apr.)	58

	N	Page
	National conference on weights and measures, 43d (Aug.).....	166
	NBS graduate school celebrates 50th anniversary (Dec.).....	246
	Neutron detection, improved method for (Sept.).....	186
	New capacitance standards (Nov.).....	229
	New data on the structure of the nucleus (Oct.).....	189
	New plan for advisory committee program (May).....	97
	New zinc spelter standard for spectrographic and chemical analysis (Dec.).....	239
	Nickel-copper tensile properties, effects of high temperatures on (Aug.).....	152
	Nucleus, structure of the (Oct.).....	189
	O	
	Observation concerning metal fatigue (Jan.).....	8
	Optical glasses with high refractive indices and dispersions (Oct.).....	201
	P	
	Paper for maps, improved (Aug.).....	148
	Petroleum gas, liquefied, prover for dispensers of (May).....	94
	Phase-equilibrium studies, high temperature (June).....	120
	Phosphors, standard samples of (Aug.).....	145
	Photographic determination of reaction rates (Feb.).....	27
	Photometric determination of tungsten in steel (Feb.).....	36
	Photonuclear conference (Oct.).....	189
	Pictorial information, processing, on digital computers (Apr.).....	60
	Plastics, impact behavior of (Feb.).....	23
	Plug-in packages, low-power, for digital computers (Apr.).....	63
	Pneumatic components, flow capacities of (May).....	95
	Precise adiabatic calorimeter (Jan.).....	13
	Preserving documents by lamination (Mar.).....	54
	Printed circuit panels, electrical characteristics of (Feb.).....	34
	Problem solving on the high-speed computer (Apr.).....	71
	Processing pictorial information on digital computers (Apr.).....	60
	Properties of materials at high temperatures (June).....	112
	Proton, redetermination of gyromagnetic ratio (Nov.).....	217
	Prover for liquefied petroleum gas dispensers (May).....	94
	Purification by fractional melting (Jan.).....	4
	R	
	Radiation handbook 51, addendum to (Aug.).....	163
	Radiation handbooks, supplement to (Aug.).....	155
	Radiation penetration problems on high-speed computer (Apr.).....	72
	Radio propagation transmitting station WWI at Havana, Illinois (Aug.).....	154
	Radioisotope standards, distribution of certain longer-lived (Dec.).....	241
	Reaction rates, photographic determination of (Feb.).....	27
	Redetermination of the standard ampere (Feb.).....	21
	Reference fuel gas available from National Bureau of Standards (May).....	97
	Refrigerated trailers, cooling loads of (Oct.).....	194
	Research advisory service on information processing (Dec.).....	233
	Retardation of copper corrosion by light (Mar.).....	47
	Rubidium vapor magnetometer (Dec.).....	234
	Rubber compounding, standard samples for (Aug.).....	148
	S	
	Safety color standards (Aug.).....	147
	Sag point, a reference in heating glasses (Feb.).....	26
	SEAC converted to applications research facility (Apr.).....	65
	Services and facilities of the electronic calibration center (Nov.).....	223
	Shift register, diode amplifier (Apr.).....	78
	Shrinkage of fabrics, interlaboratory study of (Dec.).....	247
	Simulation system, man-machine (Apr.).....	68
	Sorting machine for letter mail, automatic (Aug.).....	156
	Sound output of a source in a reflecting environment (May).....	89
	Sound speed in liquids, direct determination of (Feb.).....	38
	Spectrographic analysis, new zinc spelter standard for (Dec.).....	239
	Spectrometric data, automatic system for (Sept.).....	175
	Spectroscopic standard samples, iron-base (Oct.).....	205
	Spring wire, torque values of (Feb.).....	37

	Page
Standard samples, fuel gas (May).....	97
Standard samples of high-temperature alloys (July).....	138
Standard samples of phosphors (Aug.).....	145
Standard samples for rubber compounding (Aug.).....	148
Standard samples, spectroscopic, iron-base (Oct.).....	205
Standards and measurements, electronic, conference on (Nov.).....	209
Standardization of the inch (Mar.).....	41
Steel, cathodic protection of, in salt water (May).....	83
Steel, photometric determination of tungsten content (Feb.).....	36
Strain gages, high-temperature (July).....	134
Stress-strain recorders, evaluation of (Sept.).....	172
Studies of electrodeless plating (May).....	86
Superconducting transitions in tin whiskers (Jan.).....	6
Supplement to radiation handbooks (Aug.).....	155
Surface attack by buffer solutions (May).....	93
Summer career aids in scientist recruitment (Jan.).....	10

	T	Page
	Telemetering transducer program (Oct.).....	198
	Television color standards (Oct.).....	202
	Temperature control, precision, wide-range (May).....	98
	Temperature determinations and energy distributions in flames (July).....	131
	Temperature recorder, 96-point, for aircraft (Aug.).....	165
	Tensile properties of nickel-copper at high temperatures (Aug.).....	152
	The vitron (Dec.).....	236
	Thermodynamic data program (June).....	108
	Thermodynamic properties calculated on high-speed computer (Apr.).....	72
	Thermodynamic properties of zirconium hydrides (June).....	110
	Thin-target bremsstrahlung experiments (May).....	90
	Tin whiskers, superconducting transitions in (Jan.).....	6
	Torque values of spring wire recorded (Feb.).....	37
	Traffic trends studied with high-speed computer (Apr.).....	74
	Trailers, refrigerated, cooling loads of (Oct.).....	194
	Transducer program, telemetering (Oct.).....	198
	Tungsten in steel, photometric determination of (Feb.).....	36

	U	Page
	Ultraviolet light, degradation of cellulose by (Sept.).....	169
	Underground chambers, heat transfer in (Jan.).....	19
	Underground corrosion (Sept.).....	181
	Unusual microstructure of chromium-nickel-molybdenum alloy (Dec.).....	243
	Uranium isotopic standards now available under AEC-NBS cooperative program (Dec.).....	244

	V	Page
	Vibration pickup, capacitance type (Jan.).....	1
	Viscometer, direct-reading (Sept.).....	174
	Viscosity measurements above, 2,000° C (June).....	103
	Voltammeter, audiofrequency (Sept.).....	170

	W	Page
	Water-cooled gas sampling probes for jet-engine studies (Jan.).....	18
	WWI, radio propagation transmitting station at Havana, Illinois (Aug.).....	154

	X	Page
	X-ray penetration in lead (Feb.).....	24

	Z	Page
	Zirconium hydrides, thermodynamic properties of (June).....	110
	Zinc spelter standard for spectrographic and chemical analysis (Dec.).....	239

Publications of the National Bureau of Standards

Periodicals

(Note New Prices)

- Journal of Research of the National Bureau of Standards, Volume 61, No. 5, November 1958 (RP2906 to RP2913 incl.) 60 cents. Annual subscription \$5.00, \$1.75 additional for foreign mailing.
- Technical News Bulletin, Volume 42, No. 11, November 1958. 15 cents. Annual subscription \$1.50, 75 cents additional for foreign mailing.
- Basic Radio Propagation Predictions for February 1959. Three months in advance. CRPL-D171. Issued November 1958. 10 cents. Annual subscription \$1.00, 50 cents additional for foreign mailing.

Research Papers

Journal of Research, Volume 61, No. 5, November 1958. 60 cents.

- RP2906. On the diffraction and reflection of waves and pulses by wedges and corners. F. Oberhettinger.
- RP2907. A liquid-helium cold cell for use with an X-ray diffractometer. Igor A. Black, Leonard H. Bolz, Frank P. Brooks, Floyd A. Mauer, and H. Steffen Peiser.
- RP2908. The second spectrum of ruthenium (Ru II). Allen C. Shenstone and William F. Meggers.
- RP2909. Self-ignition temperatures of materials from kinetic-reaction data. Daniel Gross and A. F. Robertson.
- RP2910. Some studies of atmospheric transmittance on Mauna Loa. Ralph Stair and Russell C. Johnston.